

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. \_\_\_\_\_

NPDES NO. \_\_\_\_\_

TENTATIVE WASTE DISCHARGE REQUIREMENTS  
FOR  
OILDALE ENERGY LLC  
OILDALE COGENERATION FACILITY  
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region (hereafter Regional Board) finds that:

1. Oildale Energy LLC (hereafter Discharger), a California limited liability company, submitted a Report of Waste Discharge (RWD), dated 2 December 2002, for a new discharge of pollutants under the National Pollutant Discharge Elimination System (NPDES) from a cogeneration facility to the Beardsley Canal, and eventually to Poso Creek, a water of the United States.
2. The Discharger owns and operates a cogeneration facility (hereafter Facility) in Oildale, Kern County. The Facility is on approximately one acre of land owned by Tricor Refining LLC, located in a portion of Section 7, T29S, R28E, MDB&M, as shown in Attachment A, a part of this Order. The Tricor refinery consists of four principal processes: a vacuum crude unit, a solvent plant, a hydro plant, and a utility fractionation unit. The refinery generates wastewater from water softeners, boiler blowdown, and water from other units associated with the refinery operation. Tricor utilizes a treatment system consisting of a centrifugal oil and water separator, dissolved air floatation unit, powdered activated carbon biological treatment system, and microfiltration. Refinery wastewater is discharged to the City of Bakersfield sewer system.
3. The Facility employs a simple cycle, natural gas-fired General Electric LM-6000 turbine to turn a generator which produces a net maximum of 40 megawatts of electricity for the Pacific Gas and Electric Company. NO<sub>x</sub> and CO emissions from the turbine are limited through a combination of emission reduction controls including steam injection. Steam for NO<sub>x</sub> control steam injection is supplied from a high-pressure 600 lbs./in.<sup>2</sup> (psi) boiler (HP boiler). Water used to generate steam in the HP boiler is purified to protect the turbine. Purified water for the HP boiler is generated at a rate of 0.180 million gallons per day (mgd) by treating municipal drinking water with a dual-membrane reverse osmosis (RO) treatment system that removes minerals present in the water. A fraction of purified water used by the turbine is vaporized and discharged to the atmosphere as exhaust along with other combustion by-products. A small volume of untreated municipal drinking water (approximately 0.001 mgd) is routed to a cooling tower as makeup water. Water is discharged from the cooling tower as vapor to the atmosphere. The remainder of the steam is discharged to a heat recovery steam generator. Reject water from the RO treatment system is generated at a rate of 0.094 mgd, stored in a 21,000 gallon RO reject tank, and currently discharged to a storage tank at the Tricor refinery. RO reject water in the Tricor storage tank is subsequently discharged to the City of Bakersfield sewer system without receiving any further treatment. Any treated water not used by the HP boiler is also discharged to the RO reject tank

and then discharged to the Tricor storage tank. The Discharger proposes to cease discharge to the Tricor storage tank and sewer system and instead discharge the RO reject wastewater and any excess purified water stored in the RO reject tank to the Beardsley Canal. A process flow diagram is shown in Attachment B, a part of this Order.

4. Title 40, Code of Federal Regulations, Part 423 (40 CFR 423), Steam Electric Power Generation Point Source Category, includes categorical effluent limitations applicable to discharges resulting from the operation of a generating unit by an establishment primarily engaged in the generation of electricity for distribution and sale which results primarily from a process utilizing fossil-type fuel (coal, oil, or gas) or nuclear fuel in conjunction with a thermal cycle employing the steam water system as the thermodynamic medium. The categorical limits in 40 CFR 423 do not apply to the discharge described in Finding No. 3 because the discharge is RO reject water from source water treatment and not process water from power generating activities.
5. A heat recovery steam generator (HRSG) uses waste energy from the turbine to generate three energy streams. Energy from the HRSG is used to a) provide thermal circulation for day-to-day operations at the Tricor refinery, b) generate steam for the HP boiler, and c) generate steam for a low pressure 170 psi boiler (LP boiler) at the Tricor refinery. Source water for the LP boiler is currently provided by condensate return from the Tricor refinery. The Discharger anticipates providing source water for the LP boiler by purifying a larger volume of water with the RO treatment system. In supplying the HP boiler and the LP boiler, the RO treatment system will generate approximately 0.216 mgd of RO reject wastewater.
6. About 0.5 gallons per day of an anti-scaling water treatment compound, Vitec 3000, is added to the municipal drinking water stream to ensure the RO membranes are free of clogging deposits. Such deposits would be expected to occur due to the hardness of untreated municipal water. A proprietary Material Safety Data Sheet submitted by the Discharger indicates that Vitec 3000 contains phosphoric acid salt, alkali hydroxide, aminotrialkylphosphoric acid, phosphonic acid, and inorganic acid.
7. Municipal drinking water is supplied directly to the facility by the Oildale Mutual Water Company (OMWC). According to a June 2003 report from OMWC, the source water exhibits the following characteristics:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
Conductivity (EC)	µmhos/cm	275
Chlorides	mg/L	26
Boron	mg/L	0.15

8. The proposed outfall (Discharge 001) to the Beardsley Canal will be on the northern bank of the canal in the SE ¼ of Section 7, T29S, R27E, MDB&M (Latitude 35° 25' 04" North, Longitude 119° 25' 41.3" East), as shown in Attachment A, a part of this Order.

9. Data collected from a single sample of RO reject water as submitted with the RWD describes the discharge as follows:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
EC	µmhos/cm	590
Chlorides	mg/L	34
Boron	mg/L	0.2
Chloroform	µg/L	73
Chlorodibromomethane	µg/L	2.3
Dichlorobromomethane	µg/L	9.2
Zinc	µg/L	170

10. The Beardsley Canal is lined and originates on the Kern River at the Beardsley Weir, about two and a half miles upstream of Discharge 001. It becomes the Lerdo Canal at Seventh Standard Road near Oildale, approximately six miles downstream of Discharge 001. The Lerdo Canal is unlined and traverses a portion of the Poso Groundwater Hydrographic Unit. The Beardsley Canal becomes the Lerdo Canal and discharges to Poso Creek, a water of the United States.
11. Flow in the Beardsley Canal fluctuates during the year. Increases and decreases of flow in the Beardsley Canal correspond with seasonal variations in irrigation demand throughout the area. Flow in the Beardsley Canal is greater during the months between April and October, averaging about 200 mgd. Peak flows during the months of June and July can exceed 600 mgd. Flow in the Beardsley Canal between November and March averages about 65 mgd.
12. The Beardsley Canal is owned and operated by the North Kern Water Storage District (NKWSD). The Discharger and the NKWSD have not signed an agreement that defines the terms and conditions under which NKWSD allows the discharges into the Beardsley Canal. Discharger submitted a copy of a draft agreement that will be signed by the Discharger and NKWSD after WDRs are issued.
13. The Discharger proposes to discharge wastewater continuously to the Beardsley Canal. Maintenance may be performed on the Beardsley and Lerdo canals for a period of up to four weeks in December or January annually. During this period, the NKWSD may require that there be no discharge to the Beardsley Canal. In these instances, the Discharger will discharge to the Tricor refinery wastewater treatment system. The Tricor refinery wastewater treatment system discharges treated wastewater to the City of Bakersfield sewer system.
14. The Cross Valley Canal conveys California Aqueduct water to the Beardsley Canal, via Conduit "A", to supplement Kern River water during the irrigation season. Water from Conduit "A" enters the Beardsley Canal downstream of Discharge 001, providing additional dilution.
15. The Beardsley and Lerdo Canals serve as a significant source of agricultural water supply to the North Kern Water Storage District and Cawelo Water District. Total agricultural land served by the Beardsley and Lerdo canals within these two Districts is an estimated 110,000 acres, of which

about 40,000 acres are permanent crops that are boron-sensitive. The Beardsley Canal also serves approximately 10,000 acres of land south of these Districts and within the sphere of influence of the City of Bakersfield.

16. Maintenance of acceptable boron levels in the irrigation supply is essential to the continued success of sensitive crops in the service area of the Beardsley Canal.
17. The Beardsley Canal's service area has historically received water of excellent quality. Flows in the Beardsley Canal upstream of Discharge 001 exhibited the following average characteristics from January 2003 through November 2004:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
EC	µmhos/cm	155
Chlorides	mg/L	13.0
Boron	mg/L	0.11

18. Flows in Conduit "A", before it connects to the Beardsley Canal, exhibit the following average characteristics:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
EC	µmhos/cm	546
Chlorides	mg/L	96
Boron	mg/L	0.22

*APPLICABLE LAWS, REGULATIONS, POLICIES, AND PLANS*

19. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), designates beneficial uses, establishes narrative and numerical water quality objectives, and contains implementation plans and policies for protecting all waters of the Basin. The Basin Plan includes plans and policies of the State Water Resources Control Board (SWRCB) incorporated by reference. Pursuant to Section 13263(a) of the California Water Code (CWC), waste discharge requirements must implement the Basin Plan.
20. The Basin Plan specifies the following maximum salinity limitations for industrial discharges to surface waters or stream channels:

<u>Constituent</u>	<u>Units</u>	<u>Concentration</u>
EC	µmhos/cm	1,000
Chloride	mg/L	175
Boron	mg/L	1.0

21. The U.S. Environmental Protection Agency (USEPA) adopted the National Toxics Rule (NTR) on 5 February 1993 and the California Toxics Rule (CTR) on 18 May 2000. When combined with the beneficial use designations in the Basin Plan (Finding No. 23) these Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board, on

26 April 2000 adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (hereafter referred to as the Implementation Policy) that contains requirements for implementation of the NTR and CTR.

#### *RECEIVING WATER BENEFICIAL USES*

22. The Facility and discharges are within the Kern Delta Hydrologic Area (No. 557.10), as depicted on interagency hydrologic maps prepared by the Department of Water Resources (DWR) in August 1986.
23. The Basin Plan identifies the beneficial uses of Poso Creek as agricultural supply, water contact recreation, noncontact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, groundwater recharge, and freshwater replenishment. The Beardsley Canal is a tributary to Poso Creek and discharges of RO reject to the Beardsley Canal must be protective of the beneficial uses of Poso Creek. Therefore, for purposes of this permit the beneficial uses of Poso Creek are considered applicable to the Beardsley Canal.

#### *GROUNDWATER BENEFICIAL USES*

24. Depth to the first encountered groundwater (unconfined) in the area ranges from about 100 feet below ground surface (bgs) in Bakersfield to about 600 feet bgs in the northwestern service area of the Cawelo Water District. The general groundwater gradient north of the Kern River is toward the northwest.
25. The quality of groundwater in the area of the Beardsley Canal varies from an EC of about 200  $\mu\text{mhos/cm}$  in the immediate Kern River fan to over 3000  $\mu\text{mhos/cm}$  near the Kern Lake Bed. The majority of the groundwater contains total dissolved solids concentrations of 120 to 980 mg/L, with an average of about 240 mg/L within the urban Bakersfield area.
26. Groundwater underlying the Facility and Discharge 001 is within Groundwater Detailed Analysis Unit No. 257, as depicted in the Basin Plan.
27. The beneficial uses of the underlying groundwater in the vicinity and downstream of the discharge point are municipal and domestic supply, agricultural supply, industrial service supply, and water contact recreation.

#### *EFFLUENT LIMITATIONS AND REASONABLE POTENTIAL ANALYSIS*

28. Major constituents affecting suitability of water for crop application include salinity, boron, and chloride. Elevated concentrations can reduce crop growth by causing foliar damage or reducing the ability of plant roots to absorb water. R.S. Ayers and D.W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985) provides general salt tolerance guidelines for many common field, vegetable, forage, and tree crops. Several possible concentration thresholds exist for irrigation use dependent upon crop and irrigation method, and thresholds are considered flexible in

that adverse impacts can sometimes be avoided with up to 20% variance in specific applications. Lower limit concentration thresholds for EC, chloride, and boron are 700 µmhos/cm, 106 mg/L, and 0.7 mg/L, respectively. The United States Department of Food and Agriculture published guidelines for irrigation waters establishing upper limits of EC and chloride concentrations of 700 µmhos/cm and 106 mg/L, respectively, as the threshold quality considered good to excellent for irrigation of most crops under most conditions. The concentrations of certain waste constituents potentially affecting AGR beneficial uses are listed below as the concentrations developed following the Basin Plan procedures for implementation of a narrative WQO. Receiving water limits contained herein proscribe the discharge from causing exceedences of these concentrations.

<u>Constituent</u>	<u>Units</u>	<u>AGR</u>
EC	µmhos/cm	700
Boron	mg/L	0.7
Chloride	mg/L	106

29. Federal regulations require effluent limitations for all pollutants that are of may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard.
30. The Implementation Policy requires the Regional Board to use all available, valid, relevant, representative information to determine whether a discharge may: a) cause, b) have reasonable potential to cause, or c) contribute to an excursion above any applicable priority pollutant criterion or objective.
31. The single sample of the RO reject water collected on 19 August 2002 contained zinc, chloroform, chlorodibromomethane, and dichlorobromomethane at concentrations requiring further evaluation. Additional priority pollutant monitoring is necessary to meet monitoring requirements of the Implementation Policy.
32. To implement the applicable water quality objectives the most stringent applicable numerical criteria available should be used to determine water quality based effluent limits for each of the three pollutants. The criteria used for each pollutant are as follows:

<u>Constituent</u>	<u>Criteria</u>	<u>Source</u>
Chloroform <sup>1</sup>	None	N/A
Chlorodibromomethane	34 µg/L	Human Health <sup>2</sup>
Dichlorobromomethane	46 µg/L	Human Health <sup>2</sup>
Zinc	78 µg/L	Criteria Maximum Concentration <sup>3</sup>

<sup>1</sup> Since MUN beneficial use designation does not apply to the Beardsley Canal, the receiving water is not considered a potential source of drinking and no water quality criteria are applicable to chloroform in this discharge.

<sup>2</sup> USEPA California Toxics Rule Criteria, Human Health Protection standard (30-day average) for drinking water sources (fish consumption only).

<sup>3</sup> California Toxics Rule Criteria, 40 CFR 131.38, Criteria Maximum Concentration.

33. The 19 August effluent sample submitted by the Discharger (Finding No. 31) provides enough information to show that zinc has a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. A reasonable potential analysis is shown in Attachment C. Effluent limitations for zinc are established in this Order, in accordance with the Implementation Policy, and as shown in Attachment D. The analysis shown in Attachment C does not show reasonable potential for the other trihalomethane constituents detected in the effluent and, therefore, this permit does not contain water quality based effluent limits for these constituents. However, this Order may be reopened to include additional limits for CTR constituents should data collected pursuant to requirements herein show there is the reasonable potential to cause or contribute to an excursion above a water quality objective.
34. The Implementation Policy defines Minimum Level (ML) as the concentration at which the entire analytical system must give recognizable signal and calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all method specified sample weights, volumes, and processing steps have been followed. MLs are synonymous to practical quantitation limits (PQLs).
35. The Implementation Policy defines Method Detection Limit (MDL) as the concentration of a substance that can be measured and reported with 99 percent confidence that the analyte is greater than zero, as defined in 40 CFR 136, Appendix B, revised as of 14 May 1999. MDLs are synonymous to detection limits.
36. The Implementation Policy requires the Discharger to report with each sample result the corresponding applicable ML and the laboratory's current MDL.
37. Clean Water Act Section 301 requires implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state law. Applicable state water quality standards include State Water Resources Control Board (SWRCB) Resolution No. 68-16 (hereafter Resolution 68-16). Resolution 68-16 requires the Regional Board in regulating discharge of waste to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (e.g., quality that exceeds water quality objectives). Resolution 68-16 requires that the discharge be regulated to meet best practicable treatment or control to assure that pollution or nuisance will not occur and the highest water quality consistent with the maximum benefit to the people of the State be maintained.
38. Due to its low volume and its quality, discharge as permitted herein will not likely result in a perceptible increase in the concentration of pollutants in the receiving water. The permitted discharge is consistent with the anti-degradation provisions of 40 CFR 131.12 and Resolution 68-16. The discharge will not cause an exceedance of water quality objectives or cause a significant impact on the beneficial uses of groundwater and surface water. The Discharger will supply irrigation water that will be a benefit to farmers in the area and consistent with the maximum benefit to the people of the State.

39. Section 13267 of the California Water Code states, in part, “(a) A regional board, in establishing... waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting and investigation..., the regional board may require that any person who... discharges... waste... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267. The Discharger is responsible for the discharges of waste at the facility subject to this Order.
40. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.
41. CWC Section 13383 states:
- “(a) The state board or a regional board may establish monitoring, inspection, entry, reporting, and record keeping requirements, as authorized by Section 13377 or by subdivisions (b) and (c) of this section, for any person who discharges pollutants ... any person who owns or operates a publicly owned treatment works or other treatment works treating domestic sewage, or any person who uses or disposes of sewage sludge.
- (b) The state board or the regional boards may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and prescribed, and provide other information as may be reasonably required.
- (c) The state board or a regional board may inspect the facilities of any person subject to the procedure set forth in subdivision (c) Section 13267.”
42. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.
43. Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines, and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
44. The action to adopt an NPDES permit is exempt from the provisions of California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the California Water Code.



45. The Discharger and interested agencies and persons were notified of intent to prescribe waste discharge requirements for this discharge and provided with an opportunity for a public hearing and an opportunity to submit written views and recommendations.
46. All the above and the supplemental data and information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing conditions of discharge.
47. In a public meeting all comments pertaining to the discharge were heard and considered.
48. This Order shall serve as an NPDES permit pursuant to Section 402 of the Clean Water Act, and amendments thereto, and shall take effect upon the date of hearing, provided EPA has no objections.

**IT IS HEREBY ORDERED** that, pursuant to CWC Sections 13262, 13267, 13377, and 13383, Oildale Energy LLC, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following when discharging from the above described RO water treatment system.

**A. Discharge Prohibitions:**

1. Discharge of pollutants other than as characterized in RO reject water is prohibited.
2. Discharge to the Kern River is prohibited.
3. Discharge of waste classified as 'hazardous' as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq., or 'designated', as defined in Section 13173 of the California Code, is prohibited.

**B. Effluent Limitations**

1. The maximum daily flow of Discharge 001 shall not exceed 0.216 mgd.

2. Effluent discharged to the Beardsley Canal shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
EC	µmhos/cm	--	1000
Chlorides	mg/L	--	175
Boron	mg/L	--	1.0
Zinc	µg/L	39	78

3. The effluent shall not have a pH less than 6.5 or greater than 8.3.
4. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:
- (a) Minimum for any one bioassay ----- 70%
  - (b) Median for any three or more consecutive bioassays ----- 90%

**C. Receiving Water Limitations:**

Receiving Water Limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit.

The discharge, alone or in combination with other sources, shall not cause the following in canal waters:

1. Concentrations of dissolved oxygen to fall below 5.0 mg/L.
2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on objects in the water.
3. Oils, greases, waxes, floating material (liquids, solids, foams, and scums), or suspended material to create a nuisance or adversely affect beneficial uses.
4. Aesthetically undesirable discoloration.
5. Fungi, slimes, or other objectionable growths.

6. The increase in turbidity to be:
  - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTU.
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTU.
  - c. More than 10 NTU where natural turbidity is between 50 and 100 NTU.
  - d. More than 10 percent where natural turbidity is greater than 100 NTU.
7. The ambient pH to fall below 6.5, exceed 8.3, or change by more than 0.3 units.
8. The ambient temperature to increase more than 5 °F or to be altered to a degree than adversely affects beneficial uses.
9. Deposition of material that causes nuisance or adversely affects beneficial uses.
10. Chemical constituents in concentrations that adversely affect beneficial uses.
11. Taste or odor producing substances that impart undesirable tastes or odors to the water, to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.
12. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in Title 22, CCR; that harm human, plant, animal, or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
13. Toxic pollutants to be present in the water column in concentrations that that produce detrimental physiological response in human, plant, animal, or aquatic life.
14. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board pursuant to the CWA and regulations adopted thereunder.
15. Constituents to exceed the following concentrations:

<u>Constituent</u>	<u>Units</u>	<u>Daily Maximum</u>
EC	µmhos/cm	700
Chlorides	mg/L	106
Boron	mg/L	0.7

**D. Groundwater Limitations:**

The discharge, in combination with other waste sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality.

**E. Provisions:**

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as *Standard Provisions(s)*.
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. \_\_\_\_\_, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

When requested by the USEPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger Self Monitoring Reports.

3. The Discharger shall conduct toxicity testing as specified in MRP No. \_\_\_\_\_. If the testing indicates that the discharge causes, contributes to, or has the reasonable potential to cause or contribute to an in-stream excursion above a water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a work plan to conduct a Toxicity Reduction Evaluation (TRE) and upon Executive Officer approval conduct the TRE. If necessary, this Order will be reopened and a chronic toxicity limitation included and/or a limitation for the specific toxicant identified in the TRE included. Additionally, if a chronic toxicity water quality objective is adopted by the State Water Resources Control Board, this Order may be reopened to include an effluent limitation based on that objective.
4. If the Regional Board determines that specific pollutants in the discharge have reasonable potential to cause or contribute to an exceedance of a water quality objective, this Order will be reopened for consideration of additional or revision of appropriate numerical effluent or receiving water limitations for the problem constituents.
5. Prior to making any change in the discharge point, place of use, or purpose of the wastewater, the Discharger shall obtain approval of or clearance from the State Water Resources Control Board (Division of Water Quality and Water Rights).

6. The Discharger shall employ best practicable treatment and control (BPTC), including proper operation and maintenance, to comply with this Order.
7. This Order may be reopened, and effluent limitations may be added, deleted or modified if new regulations or information become available. The Regional Board may consider inclusion of a compliance time schedule within the bounds of the applicable regulations if the Discharger is not able to meet a new and more stringent discharge requirement immediately.
8. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
9. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

10. Exceedances of monthly average, seven-sample median, and daily maximum effluent limitations based on results of a single sampling event may be considered violations of the requirements of this Order. The Discharger may sample more frequently than required by the attached MRP No. \_\_\_\_\_ to provide a more representative data base, identify false positive values, and possibly lower reported average and median constituent values to demonstrate compliance with effluent limitations.

11. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
12. A copy of this Order shall be kept at the site for reference by personnel operating the Facility. Key personnel shall be familiar with its contents.
13. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State's emergency response commission within 15 days of reporting the data to the commission pursuant to section 313 of the *Emergency Planning and Community Right to Know Act* of 1986.
14. This Order expires on **(5 years from adoption date)**, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than \_\_\_\_\_, at least 180 days in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_.

\_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. \_\_\_\_\_

NPDES NO. \_\_\_\_\_

FOR  
OILDALE ENERGY LLC  
OILDALE COGENERATION FACILITY  
KERN COUNTY

This Monitoring and Reporting Program is issued pursuant to California Water Code Sections 13383 and 13267. The Discharger shall not deviate from this Monitoring and Reporting Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program. Specific sample station locations shall be established under the direction of the Regional Board's staff, and a description of the stations shall be attached to this Order. Any proposed change to a sampling location must have prior concurrence of Regional Board staff. After concurrence, a description of the change and Region Board staff's written concurrence must be attached to the Discharger's copy of this Order.

All analyses shall be performed in accordance with the latest edition of *Guidelines Establishing Test Procedures for Analysis of Pollutants*, promulgated by USEPA (40 CFR 136), or other procedures approved by the Regional Board. In reporting data, the Discharger shall indicate whether any analysis was performed using a method not in conformance with USEPA's Guidelines.

**EFFLUENT MONITORING**

Effluent samples shall be representative of the volume and quality of the discharge. Time of collection of grab samples shall be recorded. Effluent monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Flow Rate	mgd	Metered	Continuous
Conductivity @ 25°C	µmhos/cm	Grab	Weekly
Boron	mg/L	Grab	Weekly
Chloride	mg/L	Grab	Weekly
Chloroform	µg/L	Grab	Quarterly
Chlorodibromomethane	µg/L	Grab	Quarterly
Dichlorobromomethane	µg/L	Grab	Quarterly
Zinc <sup>1</sup>	µg/L	Grab	Quarterly
pH	pH units	Grab	Quarterly
Acute Toxicity <sup>2</sup>	% survival	Grab	Annually

<sup>1</sup> Temperature, pH, and hardness data shall be collected at the same time and on the same date as the zinc samples.

<sup>2</sup> Specify test species, pH, and temperature after consultation with Department of Fish and Game. The acute bioassay samples shall be analyzed using EPA-821-R-02-012 Fifth Edition, or later amendment with Regional Board staff approval. Temperature and pH shall be recorded at the time of bioassay sample collection. There shall be no pH adjustment unless approved by the Executive Officer.

## CALIFORNIA TOXICS RULE MONITORING

### A. Priority Pollutants

The Discharger shall monitor the effluent and receiving water for Metals and Inorganic, Volatile Organic, Semi-Volatile Organic, and Pesticide priority pollutants twice at least **one year prior** to the expiration of this Order. Effluent and receiving water samples shall be collected concurrently. One set of samples shall be collected in April and the other set of samples shall be collected in October. Priority pollutants are defined as USEPA priority toxic pollutants and consist of the constituents listed in the most recent National Toxics Rule and California Toxics Rule. Volatile and Semi-Volatile Organic priority pollutants are listed in Tables 2a and 2b in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Bays, and Estuaries of California* (Implementation Policy). Results of sampling shall be submitted by the **first day of the second month** following sampling. Reporting shall conform with Implementation Policy Reporting Requirements, Section 2.4 et seq. In particular, the reported Minimum Levels (MLs) shall be at least as low as the lowest ML for each priority pollutant specified in Appendix of the Implementation Policy. Effluent and receiving water samples must be analyzed for pH and hardness in order to calculate translators, which are needed for pollutants that are hardness and/or pH dependent. All analyses shall be performed at a laboratory certified by the California Department of Health Services.

<u>Constituent</u> <sup>1,2</sup>	<u>Units</u>	<u>Type of Sample</u>
Metals	µg/L	Grab
Mercury	µg/L	Grab
Chromium VI	µg/L	Grab
Arsenic	µg/L	Grab
Volatile Organics	µg/L	Grab
Semi-Volatile Organics	µg/L	Grab
Pesticides	µg/L	Grab

<sup>1</sup> Constituents shall be analyzed using a method approved by USEPA. The chosen analytical method must be able to achieve the required quantitation limit for the given constituent, as specified by the MLs listed in Appendix 4 of the Implementation Policy.

<sup>2</sup> Report all detected peaks.

### B. Dioxin

The Discharger shall test effluent and receiving water for each of the 17 TCDD congeners listed in Table 4, of the Implementation Policy. The Discharger shall report the analytical results of the effluent and receiving water monitoring for each congener, including the minimum quantifiable level (ML) and the minimum detection level (MDL), and the measured or estimated concentration. The Discharger shall multiply each measured or estimated congener concentration by its respective toxicity equivalence factor (TEF) value and report the sum of these values. The Discharger must monitor for the presence of the 17 congeners twice at least **one year prior** to the expiration of this Order. One set of samples shall be collected during dry weather and one set of samples shall be collected during wet weather. Results of



sampling shall be submitted by the **first day of the second month** following sampling. Reporting shall conform with Implementation Policy Reporting Requirements Section 2.4 et seq.

### RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water monitoring shall include at least the following:

<u>Station</u>	<u>Description</u>
R-1	Beardsley Canal, 100-300 feet upstream from Discharge 001
R-2	Beardsley Canal, 100-300 feet downstream from Discharge 001

  

<u>Constituent</u>	<u>Units</u>	<u>Station</u>	<u>Sampling Frequency</u>
Flow	mgd	R-1, R-2	Monthly
EC	µmhos/cm	R-1, R-2	Monthly
Boron	mg/L	R-1, R-2	Monthly
Chloride	mg/L	R-1, R-2	Monthly
pH	pH units	R-1, R-2	Monthly

In conducting the receiving water monitoring, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2. Attention shall be given to the presence or absence of:

- |                                       |  |
|---------------------------------------|--|
| a. Floating or suspended matter       | b. Discoloration                           |
| c. Bottom deposits                    | d. Aquatic life                            |
| e. Visible films, sheens, or coatings | f. Fungi, slimes, or objectionable growths |
| g. Potential nuisance conditions      |  |

Notes on the receiving water conditions shall be summarized in the monitoring report.

### THREE SPECIES CHRONIC TOXICITY MONITORING

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in EPA/821/R-02/013, or later amendment. Chronic toxicity samples shall be collected at the last point of discharge prior to its entering the receiving water. 24-hour composite samples shall be representative of the volume and quality of the discharge. Time of sample collection shall be recorded. The effluent tests must be conducted with concurrent reference toxicant tests. Monthly laboratory reference toxicant tests may be substituted upon approval. Both the reference toxicant and effluent tests must meet all test applicability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

Species:	Pimephales promelas, Ceriodaphnia dubia, and Selenastrum capricornutum
Frequency:	Once per year

Dilution Series:

	Dilutions (%)					Controls	
	<u>100</u>	<u>50</u>	<u>25</u>	<u>12.5</u>	<u>6.25</u>	<u>Receiving Water</u>	<u>Lab Water</u>
% Effluent	100	50	25	12.5	6.25	0	0
% Dilution Water*	0	50	75	87.5	93.75	100	0
% Lab Water	0	0	0	0	0	0	100

\* Dilution water may be uncontaminated receiving water, a standard synthetic (reconstituted water), or another acceptable dilution water as defined in Section 7 of EPA/821/R-02/013.

## REPORTING

Monitoring results shall be submitted to the Regional Board by the **1<sup>st</sup> day of the second month** following sample collection. Quarterly monitoring results shall be submitted by the **1<sup>st</sup> day of the second month** following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November) following each calendar quarter. Annual monitoring results shall be submitted by 1 February of each year.

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to clearly illustrated whether the discharge complies with waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring reports form. Such increased frequency shall be indicated on the discharge monitoring form.

By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

- The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations.
- A statement certifying when monitoring instruments and devices were last calibrated (for purposes of assuring compliance with this Order), including identification of who performed the calibration (Standard Provision C.6).
- A statement certifying whether the current operation and maintenance manual and contingency plan reflect the Facility as currently constructed and operated, and the dates when these documents were last revised and reviewed for adequacy.

The Discharger shall also submit an annual report to the Regional Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. The annual report shall be submitted hardcopy and in an electronic format (e.g. Microsoft Excel) subject to the approval of the Executive Officer. The report shall discuss the compliance record. If violations have occurred, the

MONITORING AND REPORTING PROGRAM NO. \_\_\_\_\_  
OILDALE ENERGY LLC.  
OILDALE COGENERATION FACILITY  
KERN COUNTY

-5-

report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provision D.6.

The Discharge shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by: \_\_\_\_\_  
THOMAS R. PINKOS, Executive Officer

\_\_\_\_\_  
(Date)

GEA:3/3/05

## INFORMATION SHEET

ORDER NO. \_\_\_\_\_  
OILDALE ENERGY LLC  
OILDALE COGENERATION FACILITY  
KERN COUNTY

Oildale Energy LLC (hereafter Discharger) owns and operates a cogeneration facility (hereafter Facility) in Oildale, Kern County. The Facility utilizes a gas turbine to generate electrical power and a heat recovery steam generator to recycle excess heat generated by the turbine. Steam is injected into the turbine to help reduce emissions. The Discharger uses a reverse osmosis (RO) treatment system to purify water used for steam injection emissions control. Source water to the RO system is from a municipal water supply. The Discharger proposes to discharge RO reject water to the Beardsley Canal, a tributary to Poso Creek, which is a water of the United States. RO reject water contains concentrated levels of constituents already present in the municipal supply water. RO reject water is currently discharged to a treatment system at the Tricor Refinery.

The Beardsley Canal is lined and originates on the Kern River at the Beardsley Weir, about two and a half miles upstream of Discharge 001. It becomes the Lerdo Canal at Seventh Standard Road near Oildale, approximately six miles downstream of Discharge 001, and discharges to Poso Creek. The Beardsley and Lerdo Canals serve as a significant source of agricultural water supply to the North Kern Water Storage District and Cawelo Water District. Total agricultural land served by these canals within these districts is about 110,000 acres of which about 40,000 acres are permanent crops that are boron-sensitive. The Beardsley Canal also serves about 10,000 acres of land south of these Districts and within the sphere of influence of the City of Bakersfield.

The quality of water in the Beardsley Canal is excellent. Data submitted by the Discharger indicates that water in the canal exhibits an average conductivity (EC) of 155  $\mu\text{mhos/cm}$  and boron of 0.11 mg/L.

Depth to the first encountered groundwater (unconfined) in the area ranges from about 100 feet below ground surface (bgs) in Bakersfield to about 600 feet bgs in the northwestern service area of the Cawelo Water District. The general groundwater gradient north of the Kern River is toward the northwest. The quality of groundwater in the area of the Beardsley Canal varies from an EC of about 200  $\mu\text{mhos/cm}$  in the immediate Kern River fan to over 3000  $\mu\text{mhos/cm}$  near the Kern Lake Bed. The majority of the groundwater contains total dissolved solids concentrations of 120 to 980 mg/L, with an average of about 240 mg/L within the urban Bakersfield area.

### **BENEFICIAL USES OF POSO CREEK**

The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition*, (Basin Plan) identifies the beneficial uses of Poso Creek. The beneficial uses of Poso Creek, as specified in the Basin Plan, are agricultural supply, water contact recreation, noncontact water recreation, warm freshwater habitat, cold freshwater habitat, wildlife habitat, groundwater recharge, and freshwater replenishment. The Beardsley Canal is a tributary to Poso Creek and discharges of RO reject to the Beardsley Canal must be protective of the beneficial uses of Poso Creek. Therefore, for purposes of this permit the beneficial uses of Poso Creek are considered applicable to the Beardsley Canal. The Beardsley Canal has numerous cross connections with other canals downstream of Discharge 001. The beneficial uses of these canals are similar to those of the Beardsley Canal.

## **BASIS FOR PERMIT CONDITIONS**

### **Effluent Limitations:**

Effluent limitations are based on receiving water limitations, protection of beneficial uses of the Beardsley Canal and Poso Creek, and effluent quality data submitted by the Discharger. Effluent limitations were established to comply with federal regulations, the antidegradation policies of State Water Resources Control Board Resolution No. 68-16 (Resolution No. 68-16), the National Toxics Rule (NTR), California Toxics Rule (CTR), the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (Implementation Policy), and the Basin Plan.

### **EC, Boron, and Chloride:**

These limitations are based on Basin Plan limitations and effluent quality data submitted by the Discharger. Daily maximum effluent limits for these constituents were set at levels established by the Basin Plan limits described in Finding No. 20. Monthly average effluent limits are not established in this Order due a lack of available data. Monthly average effluent limits will be established upon renewal of this Order, after the Discharger has submitted self-monitoring reports and better characterized the variability of the quality of its effluent.

### **pH:**

The Basin Plan provides that pH of surface waters shall not be depressed below 6.5, raised above 8.3, or changed at any time by more than 0.3 units from normal ambient pH. As the Discharger has not submitted any justification to grant dilution credit, the Basin plan objective is applied directly to the discharge.

### **Flow Limitations:**

Flow limitations are based on anticipated flow rates estimated by the Discharger.

### **Toxicity Limitations:**

The Basin Plan requires that all water be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This Order contains an acute toxicity effluent limitation which states, "Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ----- 70%  
Median for any three or more bioassays ----- 90%"

The monitoring and reporting program requires annual monitoring for acute toxicity and chronic toxicity. Chronic toxicity testing is required to determine whether chemicals in the wastewater are toxic.

Results of the toxicity reduction evaluation, if one is required, will then allow Regional Board staff to establish effluent limitations for pollutants that may cause or may have reasonable potential to cause toxicity in the wastewater.

### **Groundwater Limitations:**

The Basin Plan contains water quality objectives for surface and groundwaters in the Basin. The Basin Plan identifies the Basin as being closed. It recognizes that salt will increase over time and it includes a strategy of controlled degradation. Salinity degradation parameters for groundwater in the Poso and Kern River Groundwater Hydrographic Units are established by the Basin Plan.

The Basin Plan provides that all groundwaters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources. Antidegradation provisions of Resolution 68-16 state that changes in water quality may be allowed only if the change is consistent with maximum benefit to the people of the State.

### **Receiving Water Limitations**

Receiving water limitations are based on guidelines established by the U.S. Department of Food and Agriculture and R.S. Ayers and D.W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations – Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985). The receiving water limitations are established to protect the agriculture beneficial use of the receiving water.

### **Reasonable Potential Analysis**

Federal Regulations contained in 40 CFR 122.4(d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. USEPA adopted the National Toxics Rule on 5 February 1993 and the California Toxics Rule on 18 May 2000. The NTR and CTR contain water quality standards applicable to this discharge. The State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the Implementation Policy), which contains guidance on implementation of the NTR and CTR. A list of priority pollutants is contained in the Implementation Policy.

The Discharger submitted effluent monitoring data with the Report of Waste Discharge (RWD). The data were not sufficient to conduct a complete reasonable potential analysis, as required by the Implementation Policy. Therefore, Regional Board staff conducted a partial reasonable potential analysis using the data that were available. Based on data submitted with the RWD, Regional Board staff found that zinc has a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. Reasonable potential analyses for all the constituents detected to be present in the Discharger's effluent are summarized in Attachment C and in the following Table 1. Note that in Attachment C data are shown for only seven priority pollutants (arsenic, copper, selenium, zinc, chlorodibromomethane, chloroform, and dichlorobromomethane). These seven constituents were the

only priority pollutants detected in the effluent. All other priority pollutants were either non-detect or not tested for in the effluent. Monitoring and Reporting Program No. \_\_\_\_\_ requires the Discharger to submit the data required necessary to conduct a complete reasonable potential analysis. A full reasonable potential analysis of all priority pollutants will be conducted upon renewal of this Order after the Discharger has submitted all the priority pollutant monitoring required by the attached Monitoring and Reporting Program.

**Table 1: Reasonable Potential**

<u>Constituent</u>	<u>Highest Concentration in Effluent</u>	<u>Most Restrictive Water Quality Objective</u>	<u>RP</u>
Chloroform	73 µg/L	None	N
Chlorodibromomethane	2.3 µg/L	34 µg/L	N
Dichlorobromomethane	9.2 µg/L	46 µg/L	N
Zinc	170 µg/L	78 µg/L	Y

Water quality based effluent limitations (WQBELs) calculated for these constituents, based on the most restrictive applicable water quality objectives and the methodology presented in the Implementation Policy, are summarized below in Table 2. A detailed derivation of the WQBELs is shown in Attachment D.

**Zinc:**

The freshwater aquatic life criteria for priority pollutant metals are hardness dependent and must be calculated depending upon the hardness of the receiving water. Water in the Beardsley Canal at Discharge 001 exhibits a hardness of 60 mg/L as CaCO<sub>3</sub>, and water quality criteria for zinc were calculated accordingly. The maximum effluent concentration of zinc was 170 µg/L, reported on 19 August 2002. The criterion continuous concentration (CCC) to protect aquatic life at 60 mg/L hardness is 77.7 µg/L zinc as shown in Attachment C of this Order. Since the MEC was greater than the lowest water quality criterion, zinc was found to have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective and an effluent limitation was established. Using the procedure in the Implementation Policy a maximum daily effluent limitation (MDEL) of 78 mg/L and an average monthly effluent limitation (AMEL) of 39 mg/L are established for zinc. The calculation of the MDEL and AMEL are shown in Attachment D of this Order.

**Chloroform:**

The MEC of chloroform was 73 µg/L reported on 19 August 2002. Since the Beardsley Canal does not have the MUN beneficial use designation, it is not necessary to apply water quality criteria that protect human health from direct consumption of water in the canal. Therefore, no water quality criteria apply to chloroform in this discharge. Since there are no applicable water quality criteria for chloroform in this discharge, chloroform was not found to have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. Therefore, no water quality based effluent limitation was calculated for chloroform.

### **Chlorodibromomethane:**

The MEC of chlorodibromomethane was 2.3 µg/L reported on 19 August 2002. Since the Beardsley Canal does not have the MUN beneficial use designation, it is not necessary to apply water quality criteria that protect human health from direct consumption of water in the canal. Therefore, the water quality criterion that protect human health from consumption of aquatic organisms is applied to water in the Beardsley Canal. The human health criterion to protect from the consumption of aquatic organisms is 34 µg/L, as shown in Table 1 and Attachment C. Since the MEC is less than the most stringent applicable water quality criterion, chlorodibromomethane was not found to have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. Therefore, no water quality based effluent limitation was calculated for chlorodibromomethane.

### **Dichlorobromomethane:**

The MEC of dichlorobromomethane was 9.2 µg/L reported on 19 August 2002. Since the Beardsley Canal does not have the MUN beneficial use designation, it is not necessary to apply water quality criteria that protect human health from direct consumption of water in the canal. Therefore, the water quality criterion that protect human health from consumption of aquatic organisms is applied to water in the Beardsley Canal. The human health criterion to protect from the consumption of aquatic organisms is 46 µg/L, as shown in Table 1 and Attachment C. Since the MEC is less than the most stringent applicable water quality criterion, dichlorobromomethane was not found to have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective. Therefore, no water quality based effluent limitation was calculated for dichlorobromomethane.

**Table 2: WQBELs**

<u>Constituent</u>	<u>WQBEL</u>
Chloroform	None
Chlorodibromomethane	None
Dichlorobromomethane	None
Zinc	39 µg/L

### **Other Priority Pollutants:**

Several other priority pollutants (non-VOCs) were detected in the effluent but not found to have reasonable potential. Arsenic, copper, and selenium were detected in the effluent; however, the MEC for each of these constituents was below the lowest respective applicable water quality criterion, as shown in Attachment C of this Order. Therefore, these constituents were found not to have reasonable potential to cause or contribute to an in-stream excursion above a water quality objective and effluent limitations were not established.



## **ANTIDEGRADATION AND CEQA CONSIDERATIONS**

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and Resolution 68-16. The antidegradation policy requires that where existing quality of water is better than quality established in policies such as the Basin Plan, such existing quality of water will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, and will not unreasonably affect present and anticipated beneficial use of such water. The Discharger will supply irrigation water that will be a benefit to farmers in the area. The increase in pollutants discharged will likely be imperceptible and will not cause significant impact on the beneficial uses of groundwater and surface waters.

Kern River water in the Beardsley Canal is of excellent quality. Based on information submitted by the Discharger, RO reject wastewater discharged to the Beardsley Canal contains concentrations of EC, boron, and chloride below limits that protect agricultural beneficial uses. The Discharger has not submitted an analysis to the Regional Board that additional degradation resulting from discharges of EC, boron, and chloride at higher concentrations would be consistent with the maximum benefit of the people of the State.

The action to adopt an NPDES permit for the existing discharge into the Beardsley Canal is exempt from the provisions of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), in accordance with Section 13389 of the California Water Code.

GEA:3/3/05